



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 10, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CROW FED #35

Enclosed are the results of analyses for samples received by the laboratory on 07/09/15 10:52.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly legible.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PASTURE PT. 4 @ 4' (H501757-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.89	2.00	07/10/2015	ND	2.31	116	2.00	0.819	
Toluene*	79.9	2.00	07/10/2015	ND	2.02	101	2.00	1.57	
Ethylbenzene*	65.6	2.00	07/10/2015	ND	1.96	97.9	2.00	0.0738	
Total Xylenes*	50.7	6.00	07/10/2015	ND	5.79	96.6	6.00	0.329	
Total BTEX	201	12.0	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1170	50.0	07/09/2015	ND	178	88.9	200	0.656	
DRO >C10-C28	2860	50.0	07/09/2015	ND	175	87.4	200	0.406	

Surrogate: 1-Chlorooctane 144 % 47.2-157
Surrogate: 1-Chlorooctadecane 122 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL 2 (H501757-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2015	ND	2.31	116	2.00	0.819	
Toluene*	0.168	0.050	07/10/2015	ND	2.02	101	2.00	1.57	
Ethylbenzene*	0.058	0.050	07/10/2015	ND	1.96	97.9	2.00	0.0738	
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.79	96.6	6.00	0.329	
Total BTEX	<0.300	0.300	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/09/2015	ND	178	88.9	200	0.656	
DRO >C10-C28	<10.0	10.0	07/09/2015	ND	175	87.4	200	0.406	

Surrogate: 1-Chlorooctane 88.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 92.3 % 52.1-176

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL 2 (H501757-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/09/2015	ND	2.31	116	2.00	0.819	
Toluene*	<0.050	0.050	07/09/2015	ND	2.02	101	2.00	1.57	
Ethylbenzene*	<0.050	0.050	07/09/2015	ND	1.96	97.9	2.00	0.0738	
Total Xylenes*	<0.150	0.150	07/09/2015	ND	5.79	96.6	6.00	0.329	
Total BTEX	<0.300	0.300	07/09/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/09/2015	ND	178	88.9	200	0.656	
DRO >C10-C28	<10.0	10.0	07/09/2015	ND	175	87.4	200	0.406	

Surrogate: 1-Chlorooctane 83.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.3 % 52.1-176

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*=Accredited Analyte

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Analytical Results For:

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 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PASTURE PT. 4 @ 8' (H501757-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/09/2015	ND	2.31	116	2.00	0.819	
Toluene*	<0.050	0.050	07/09/2015	ND	2.02	101	2.00	1.57	
Ethylbenzene*	<0.050	0.050	07/09/2015	ND	1.96	97.9	2.00	0.0738	
Total Xylenes*	<0.150	0.150	07/09/2015	ND	5.79	96.6	6.00	0.329	
Total BTEX	<0.300	0.300	07/09/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/09/2015	ND	178	88.9	200	0.656	
DRO >C10-C28	<10.0	10.0	07/09/2015	ND	175	87.4	200	0.406	

Surrogate: 1-Chlorooctane 76.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 81.4 % 52.1-176

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report



Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

RUS #1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>ARCELOR</u>		P.O. #:		BILL TO		ANALYSIS REQUEST					
Project Manager: <u>Bruce Baker</u>		Company:									
Address:		City: Hobbs		State: NM		Zip: 88240					
Phone #:		Fax #:		Address:		City:					
Project #:		Project Owner:		State:		Zip:					
Project Location: <u>Crow Fed #25</u>		Sample Name: <u>Kate Humphrey</u>		Phone #:		Fax #:					
FOR LAB USE ONLY		Lab I.D. <u>H501951</u>		Sample I.D.							
		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING	
		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE	
		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE	
		DATE		TIME		Chlorides		TPH 8015 M		BTEX	
		7-8-15		2:45		Texas TPH		Complete Cations/Anions		TDS	
		7-8-15		3:30							
		7-8-15		3:35							
		7-8-15		2:50							

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Relinquished By: <u>Kaewm</u>	Date: _____	Received By: <u>Judy Burca</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Delivered By: (Circle One)	Time: <u>11:15</u>	Sample Condition	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Sampler - UPS - Bus - Other: <u>Bus</u>	Time: <u>10:52</u>	Cool Impact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	REMARKS:	
		Other <input type="checkbox"/> Yes <input type="checkbox"/> No	email: hconder@riceswd.com; lflores@rice-ecs.com;	
			lweinheimer@rice-ecs.com; knorman@rice-ecs.com;	
			jkamplain@rice-ecs.com; sedwards@rice-ecs.com;	
			cursanic@rice-ecs.com	
			Environmental Tech: @rice-ecs.com	

July 10, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CROW FED #35

Enclosed are the results of analyses for samples received by the laboratory on 07/09/15 10:52.

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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL (H501759-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/09/2015	ND	2.31	116	2.00	0.819		
Toluene*	<0.050	0.050	07/09/2015	ND	2.02	101	2.00	1.57		
Ethylbenzene*	<0.050	0.050	07/09/2015	ND	1.96	97.9	2.00	0.0738		
Total Xylenes*	<0.150	0.150	07/09/2015	ND	5.79	96.6	6.00	0.329		
Total BTEX	<0.300	0.300	07/09/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	07/09/2015	ND	178	88.9	200	0.656		
DRO >C10-C28	<50.0	50.0	07/09/2015	ND	175	87.4	200	0.406		

Surrogate: 1-Chlorooctane 79.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.4 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/09/2015	Sampling Date:	07/08/2015
Reported:	07/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: BOTTOM 1 @ 4' (H501759-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/09/2015	ND	2.31	116	2.00	0.819		
Toluene*	<0.050	0.050	07/09/2015	ND	2.02	101	2.00	1.57		
Ethylbenzene*	<0.050	0.050	07/09/2015	ND	1.96	97.9	2.00	0.0738		
Total Xylenes*	<0.150	0.150	07/09/2015	ND	5.79	96.6	6.00	0.329		
Total BTEX	<0.300	0.300	07/09/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/09/2015	ND	178	88.9	200	0.656		
DRO >C10-C28	23.6	10.0	07/09/2015	ND	175	87.4	200	0.406		

Surrogate: 1-Chlorooctane 84.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 91.6 % 52.1-176

Cardinal Laboratories

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

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RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report



Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

RUSH!

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: *Arcep* P.O. #:

Project Manager: *Brice Baker* Company:

Address: State: NM Zip: 88240 Attn:

City: Hobbs Fax #: Address:

Phone #: Project Owner: City: State: Zip:

Project #: Project Name: State: Zip:

Project Location: *Crow foot #25* Phone #: Fax #:

Sampler Name: FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:										
<i>H501759</i>	<i>East Well</i>	<i>6</i>	<i>1</i>			<i>1</i>						<i>7-8-15</i>	<i>1:30</i>	<i>1</i>	<i>1</i>					
	<i>2 Bottom 1/2 W</i>	<i>6</i>	<i>1</i>			<i>1</i>						<i>7-8-15</i>	<i>1:45</i>	<i>1</i>	<i>1</i>					

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Relinquished By: *Mate Hurd* Date: Received By: *Judy Garcia*

Relinquished By: *Mate Hurd* Date: *7/9/15* Received By: *Judy Garcia*

Delivered By: (Circle One) *-9.00* Sample Condition: Cool Intact Yes No

CHECKED BY: (Initials) *JG*
REMARKS: email: hconder@riceswd.com; lflores@rice-ecs.com; lweihelmer@rice-ecs.com; knorman@rice-ecs.com; jkamlain@rice-ecs.com; sedwards@rice-ecs.com; cursanic@rice-ecs.com Environmental Tech: @rice-ecs.com

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54



July 20, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CROW FED #35

Enclosed are the results of analyses for samples received by the laboratory on 07/14/15 14:10.

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/14/2015	Sampling Date:	07/13/2015
Reported:	07/20/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: NORTH WALL 1 (H501792-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2015	ND	1.95	97.6	2.00	1.98		
Toluene*	<0.050	0.050	07/20/2015	ND	1.97	98.6	2.00	2.26		
Ethylbenzene*	<0.050	0.050	07/20/2015	ND	2.08	104	2.00	2.40		
Total Xylenes*	<0.150	0.150	07/20/2015	ND	5.43	90.5	6.00	2.86		
Total BTEX	<0.300	0.300	07/20/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/16/2015	ND	199	99.7	200	4.27		
DRO >C10-C28	<10.0	10.0	07/16/2015	ND	202	101	200	11.1		

Surrogate: 1-Chlorooctane 72.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 68.3 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/14/2015	Sampling Date:	07/13/2015
Reported:	07/20/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: NORTH WALL 2 (H501792-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2015	ND	1.95	97.6	2.00	1.98	
Toluene*	<0.050	0.050	07/20/2015	ND	1.97	98.6	2.00	2.26	
Ethylbenzene*	<0.050	0.050	07/20/2015	ND	2.08	104	2.00	2.40	
Total Xylenes*	<0.150	0.150	07/20/2015	ND	5.43	90.5	6.00	2.86	
Total BTEX	<0.300	0.300	07/20/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2015	ND	199	99.7	200	4.27	
DRO >C10-C28	<10.0	10.0	07/16/2015	ND	202	101	200	11.1	

Surrogate: 1-Chlorooctane 83.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.0 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/14/2015	Sampling Date:	07/13/2015
Reported:	07/20/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERT 1 @ 7' (H501792-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2015	ND	1.95	97.6	2.00	1.98	
Toluene*	<0.050	0.050	07/20/2015	ND	1.97	98.6	2.00	2.26	
Ethylbenzene*	<0.050	0.050	07/20/2015	ND	2.08	104	2.00	2.40	
Total Xylenes*	<0.150	0.150	07/20/2015	ND	5.43	90.5	6.00	2.86	
Total BTEX	<0.300	0.300	07/20/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2015	ND	199	99.7	200	4.27	
DRO >C10-C28	<10.0	10.0	07/16/2015	ND	202	101	200	11.1	

Surrogate: 1-Chlorooctane 85.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.4 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/14/2015	Sampling Date:	07/13/2015
Reported:	07/20/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERT 2 @ 13' (H501792-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2015	ND	1.95	97.6	2.00	1.98	
Toluene*	0.123	0.050	07/20/2015	ND	1.97	98.6	2.00	2.26	
Ethylbenzene*	0.213	0.050	07/20/2015	ND	2.08	104	2.00	2.40	
Total Xylenes*	0.248	0.150	07/20/2015	ND	5.43	90.5	6.00	2.86	
Total BTEX	0.584	0.300	07/20/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2015	ND	199	99.7	200	4.27	
DRO >C10-C28	55.5	10.0	07/16/2015	ND	202	101	200	11.1	

Surrogate: 1-Chlorooctane 81.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 84.3 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report



Celey D. Keene, Lab Director/Quality Manager



July 14, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CROW FED #35

Enclosed are the results of analyses for samples received by the laboratory on 07/08/15 8:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/08/2015	Sampling Date:	07/07/2015
Reported:	07/14/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PASTURE POINT 3 @ 4' (H501732-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/13/2015	ND	2.13	107	2.00	3.67		
Toluene*	<0.050	0.050	07/13/2015	ND	1.90	95.2	2.00	3.76		
Ethylbenzene*	<0.050	0.050	07/13/2015	ND	1.82	91.1	2.00	4.21		
Total Xylenes*	<0.150	0.150	07/13/2015	ND	5.38	89.6	6.00	4.75		
Total BTEX	<0.300	0.300	07/13/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/10/2015	ND	199	99.4	200	5.17		
DRO >C10-C28	<10.0	10.0	07/10/2015	ND	202	101	200	12.6		

Surrogate: 1-Chlorooctane 81.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 83.9 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	07/08/2015	Sampling Date:	07/07/2015
Reported:	07/14/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL (H501732-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/14/2015	ND	2.46	123	2.00	1.05	
Toluene*	<0.050	0.050	07/14/2015	ND	2.21	110	2.00	0.366	
Ethylbenzene*	<0.050	0.050	07/14/2015	ND	2.17	108	2.00	1.47	
Total Xylenes*	<0.150	0.150	07/14/2015	ND	6.46	108	6.00	1.94	
Total BTEX	<0.300	0.300	07/14/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 61-154

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/10/2015	ND	199	99.4	200	5.17	
DRO >C10-C28	<10.0	10.0	07/10/2015	ND	202	101	200	12.6	

Surrogate: 1-Chlorooctane 85.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.5 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache

P.O. #: **BILL TO**

ANALYSIS REQUEST

Project Manager: Bruce Baker / Kyle Norman

Company:

Address: 419 W Cain

Attn:

City: Hobbs

State: NM Zip: 88240

Phone #: 575-393-2967

Fax #: 575-393-0293

Project #:

Project Owner:

Project Name:

City:

Project Location: CROW Fed HDS

State: Zip:

Sampler Name:

Phone #:

FOR LAB USE ONLY

Fax #:

MATRIX

PRESERV

SAMPLING

Lab I.D.

Sample I.D.

H501732

POSTURE B610+3041

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

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ACID/BASE:

ICE / COOL

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Relinquished By:

Date: 8/6/15

Received By: [Signature]

Relinquished By: [Signature]

Date: 8/35

Received By: [Signature]

Relinquished By:

Date:

Received By:

Delivered By: (Circle One)

UPS

Bus

Other

Checked By: [Signature]

Delivered By: (Circle One)

UPS

Bus

Other

Checked By: [Signature]

Delivered By: (Circle One)

UPS

Bus

Other

Checked By: [Signature]

email results: hconder@rice-ecs.com; knorman@rice-ecs.com; jkamppain@rice-ecs.com; lflores@rice-ecs.com; lweihelmer@rice-ecs.com; cursanic@rice-ecs.com; sedwards@rice-ecs.com environmental tech: larry.baker@apachecorp.com @rice-ecs.com

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



August 10, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CROW FED #35

Enclosed are the results of analyses for samples received by the laboratory on 08/07/15 9:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	08/07/2015	Sampling Date:	08/06/2015
Reported:	08/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: CLEAN PILE POINT 1 (H502053-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/07/2015	ND	1.78	88.9	2.00	0.903		
Toluene*	<0.050	0.050	08/07/2015	ND	1.75	87.4	2.00	0.767		
Ethylbenzene*	<0.050	0.050	08/07/2015	ND	1.83	91.5	2.00	2.33		
Total Xylenes*	<0.150	0.150	08/07/2015	ND	5.17	86.1	6.00	0.329		
Total BTEX	<0.300	0.300	08/07/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 122 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/07/2015	ND	201	101	200	0.129		
DRO >C10-C28	352	10.0	08/07/2015	ND	180	89.8	200	0.142		

Surrogate: 1-Chlorooctane 111 % 47.2-157

Surrogate: 1-Chlorooctadecane 131 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	08/07/2015	Sampling Date:	08/06/2015
Reported:	08/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: CLEAN PILE POINT 2 (H502053-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/07/2015	ND	1.78	88.9	2.00	0.903		
Toluene*	<0.050	0.050	08/07/2015	ND	1.75	87.4	2.00	0.767		
Ethylbenzene*	<0.050	0.050	08/07/2015	ND	1.83	91.5	2.00	2.33		
Total Xylenes*	<0.150	0.150	08/07/2015	ND	5.17	86.1	6.00	0.329		
Total BTEX	<0.300	0.300	08/07/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 123 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/07/2015	ND	201	101	200	0.129		
DRO >C10-C28	251	10.0	08/07/2015	ND	180	89.8	200	0.142		

Surrogate: 1-Chlorooctane 108 % 47.2-157

Surrogate: 1-Chlorooctadecane 127 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	08/07/2015	Sampling Date:	08/06/2015
Reported:	08/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: CLEAN PILE POINT 3 (H502053-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2015	ND	1.78	88.9	2.00	0.903	
Toluene*	<0.050	0.050	08/07/2015	ND	1.75	87.4	2.00	0.767	
Ethylbenzene*	<0.050	0.050	08/07/2015	ND	1.83	91.5	2.00	2.33	
Total Xylenes*	0.293	0.150	08/07/2015	ND	5.17	86.1	6.00	0.329	
Total BTEX	<0.300	0.300	08/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 133 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/07/2015	ND	201	101	200	0.129	
DRO >C10-C28	789	50.0	08/07/2015	ND	180	89.8	200	0.142	

Surrogate: 1-Chlorooctane 110 % 47.2-157

Surrogate: 1-Chlorooctadecane 152 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	08/07/2015	Sampling Date:	08/06/2015
Reported:	08/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: CLEAN PILE POINT 4 (H502053-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2015	ND	1.78	88.9	2.00	0.903	
Toluene*	<0.050	0.050	08/07/2015	ND	1.75	87.4	2.00	0.767	
Ethylbenzene*	<0.050	0.050	08/07/2015	ND	1.83	91.5	2.00	2.33	
Total Xylenes*	<0.150	0.150	08/07/2015	ND	5.17	86.1	6.00	0.329	
Total BTEX	<0.300	0.300	08/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/07/2015	ND	201	101	200	0.129	
DRO >C10-C28	507	50.0	08/07/2015	ND	180	89.8	200	0.142	

Surrogate: 1-Chlorooctane 108 % 47.2-157

Surrogate: 1-Chlorooctadecane 157 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	08/07/2015	Sampling Date:	08/06/2015
Reported:	08/10/2015	Sampling Type:	Soil
Project Name:	CROW FED #35	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: CLEAN PILE POINT 5 (H502053-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2015	ND	1.78	88.9	2.00	0.903	
Toluene*	<0.050	0.050	08/07/2015	ND	1.75	87.4	2.00	0.767	
Ethylbenzene*	<0.050	0.050	08/07/2015	ND	1.83	91.5	2.00	2.33	
Total Xylenes*	0.329	0.150	08/07/2015	ND	5.17	86.1	6.00	0.329	
Total BTEX	0.329	0.300	08/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 135 % 85.6-137

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/07/2015	ND	201	101	200	0.129	
DRO >C10-C28	660	50.0	08/07/2015	ND	180	89.8	200	0.142	

Surrogate: 1-Chlorooctane 101 % 47.2-157

Surrogate: 1-Chlorooctadecane 154 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report



Celey D. Keene, Lab Director/Quality Manager

